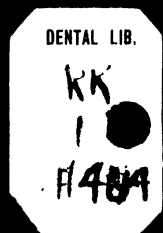
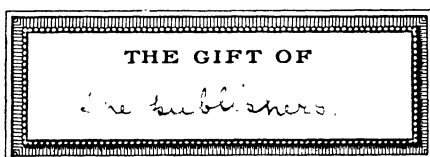
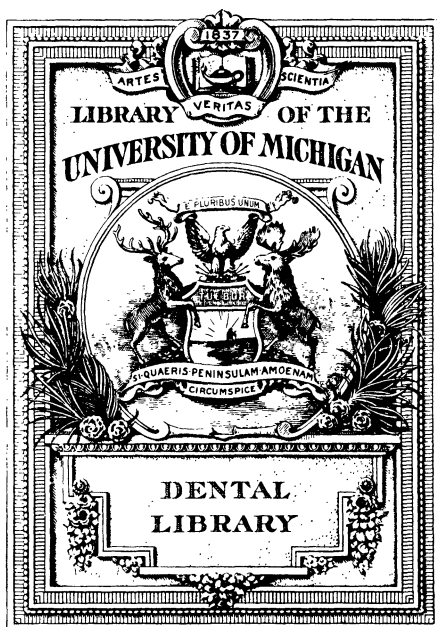


AMERICAN  
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JOURNAL

9

1910







# *The* AMERICAN DENTAL JOURNAL

DR. BERNARD J. CIGRAND, Editor

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## *Editorials and Comments*

"The editor has assumed charge of this journal with the signed understanding that he shall have absolute and unlimited control and supervision of the editorial and literary elements; this unusual grant makes it possible to render the profession an independent periodical; the title page clearly indicates the scope under this new policy of this old established journal."—*Publishers.*

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### PATRIOT, PAUL REVERE, A DENTIST.

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Practitioners young and old have read narratives, tales or romances in which the initial paragraph read something like this: "It was a beautiful day in spring, the flowers were turning their tinted heads toward the blue sky, and in the green trees the birds were singing the first sweet notes of creation." While this poetic proem has led us into many a thrilling romance, such a flowery introduction is, in fact, the preface to the great drama of American history, as prologued on the village green at Lexington on April 19th, 1775.

The stillness of the morning air on that historic day, was broken by the clear voice of Paul Revere, as he on his fleet horse rode up Lexington road to arouse the farmers, villagers and minute-men of the approach of the king's regulars. The morning's sun was still hidden behind the silvery waters of the surging Atlantic as Revere dashed into the first settlement to sound the alarm. There were yet no shadows, for daylight had not yet crept upon the scene, and in darkness he drove into the woodland way, to the triangular field at Lexington, where in a few hours would be ushered forth a fratricide

strife, in which thousands would yield up their lives and years of anguish follow the crossing of the swords. Revere well knew the holy mission he was in, he had counted the cost, and the clanking of the horse's feet reminded him that it was not a dream, but a reality that he was calling to arms a gallant brigade.

The thrill which his alarm marked is for imagination, always a fruitful theme. The ringing of bells, the belching of muskets foretold that the British were coming and a tragedy in many acts was upon the colonial soil. The signs of the hour were well understood and the actors who were to appear, "knew their parts" as the world of today is willing to attest.

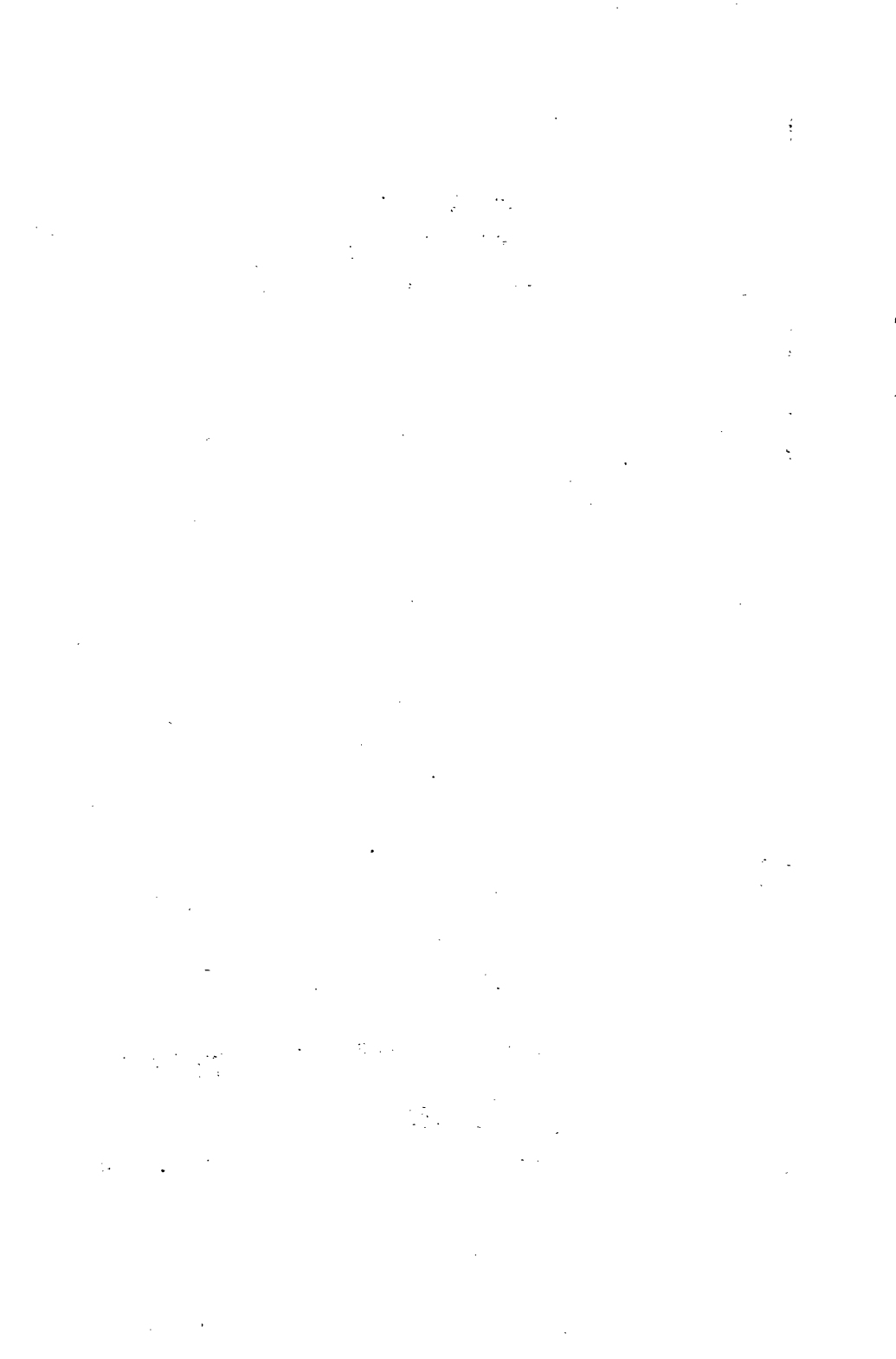
While we are taught that Paul Revere was a young and fearless patriot—we know that the fanciful youth is a poet's contribution, since he was a man of forty years and one of the successful citizens of Boston. Revere was eager to assume the hazardous trip, notwithstanding its possibility of resulting in his instant death at the hands of some British sentinel.

He was a soldier of experience, one in whom the daring blood of the Huguenot spirit flowed, and his steady hand and clear mind was ready for any military strategy. He had scarcely emerged from his forest ride when the British soldiery heard the command of Major Pitcarin to march to Lexington. The king's soldiers leisurely, yet formidably, marched up to the winding road enjoying the beautiful scenery, and when they arrived at a half-way house, known as Wright's tavern, the major ordered a halt, and invited his subordinates in for the usual morning's drink. The inn keeper offered him both the glass and bottle and the Britisher poured forth a liberal quantity of the warm beverage. He took his index finger and dipped it in the liquid, giving it a circular or rotary movement, saying as he laughed:—"That's how we will stir the blood of those rebels when we meet them." While an under officer derisively joined with the remark:—"They have volunteers they call minute-men, they will call them mi-nute men when we get through with them." And another burst of laughter came, as a fitting climax to this bit of wit. The dignified major came from the colonial tavern, mounted his prancing charger and at the word forward! the long line of British infantry with its bright red decorations, sparkling medals, and burnished side pieces glistening in the rising sun, moved with steady and well disciplined step toward



PORTRAIT—PAUL REVERE—DENTIST

*Compliments of the American Dental Journal*



the quaint village of Lexington, where three score or more colonists with their wives and children awaited them with the varied forms of expectancy.

The colonial patriots made a meager showing, their appearance could not be called military,—uniforms were missing and the variety of their muskets and implements of war were the most noticeable feature. But they possessed heroism, they were filled with courage, they had heard and seen Paul Revere, whose dare they admired and whose voice was their inspiration. Now the British come in view, the music is familiar, the brilliant uniforms and burnished sabers make an impressive sight; what will the untrained colonists do when the king's regulars come upon the scene?

Captain Parker, who commands the out-numbered colonists steps forth and lends this defiance: "Don't fire unless fired upon, but if they mean war, let it begin here."

The remainder of the story needs no detailing since the readers well know, but let us not forget that it was Paul Revere, who on April 19th, raised the curtain and led the way to the American revolution and by coincidence and not design on April 19th, 1910, the regular meeting night of the Chicago Odontographic Society, a lecture was given, in which considerable stress was put on the statement that Paul Revere had practiced dentistry. The part of the lecture which caused much surprise and comment contained this announcement: "Before the state house (Boston) in 1775 we find a congregation of patriots eagerly discussing the approaching fray with the mother country. In the midst of these earnest and defiant men we see a heavy set, sturdy and enthusiastic gentleman. It is Paul Revere—a dentist, and he is doing all within his power—and he is a man of much influence in Boston,—to arouse the sentiments of the continentals to strike in defense of their rights and be prepared to offer physical resistance to the tyranny of England. He is indeed one of the leading spirits and his advice is heeded, since he is known to be a courageous character. On April 18th, we see him arranging with other patriots to be the sentinel who is to awaken the citizens and farmers as to the exact movements of the British, his hazardous midnight ride, with which you are all familiar, the poet Longfellow has blazoned on the pages of literature with these rhythmic lines:

‘Listen, my children, and you shall hear  
Of the midnight ride of Paul Revere.’

"It was an important dash which this dentist made, and the history which follows in the wake of his galloping horse has not yet been fully written, and for generations to come will be heralded to the rising youth as one of the dramatic and spectacular events of our nation's morning time. Not only did he arouse the neighbors on the way to Lexington, where the ammunition and the arms of the colonists were stored, and which he was sent to protect, but he also with all speed, dust-covered, exhausted, halted his horse at the side street of Lexington, where, in a small frame house Hancock and Adams were in hiding. He awakened them and made their safe escape possible. Without this warning the patriot cause might have been nipped in the bud—for had these two gentlemen, the soul and the spirit of the revolution, been captured, our war for freedom might have been postponed for years, with the possibility of never having come. It afforded me greatest delight to tramp over these scenes, saunter about the old skirmish lines, loaf about the historic stream, and drink in the sweet patriotic sentiments everywhere embossed upon the stones, the bronzes and the wood. It was a truly serene pleasure to contemplate, that the 'shot which was heard around the world' was made possible because of the daring patriotism of a dentist, Paul Revere. His old homestead is being cared for by patriotic societies, and in it you may view many ingenious things which have come from the dextrous hand of this early craftsman of our calling. Among these tokens we see beautiful silver vases, handsomely engraved silver and metallic dinner sets and a great variety of carvings, all of which clearly indicate his dexterity and love of the manual. Besides being a practicing prosthetic dentist, carving and fashioning artificial dentures, he was also an engraver of colonial fame. He was called upon to do much of the illustrating of the New England states, and designed many artistic pictures. His rude sketch of the Boston massacre is the foundation of the present time handsome oil paintings we see in our halls of patriotism. But some of the best work of his hands are not alone engraving. He was an expert at founding bells and throughout the states you may hear the peals of bells whose tones were the implantation of Paul Revere."

Continuing the lecture referred to the dental service which Revere had given to Dr. Joseph Warren, hero of the battle of Bunker Hill, which the July AMERICAN DENTAL JOURNAL on page 356 contains; and resuming the lecturer added these commendatory words of the

great national service of Paul Revere:—"But the descendant of the Huguenots, Revere, has contributed another memorable thing which must be mentioned. When the question of the adoption of the federal constitution was before Massachusetts, there were grave doubts as to that commonwealth accepting this document as the basic law and for days it seemed that the legislative body which had the problem in hand would vote to reject the instrument. Samuel Adams, the giant in debate and the power in the law, cast his vote with the opposition, and as it required but a few changed votes to carry the measure, Revere called on Adams and so thoroughly impressed him with the merits of the proposed constitution that the sturdy orator took the floor and advocated the adoption of the federal constitution. Hence this to the credit of the dentist, Paul Revere, for having turned an entire and influential community from the anti-federal to the loyal constitutional party."

Considerable surprise was manifested at proclaiming Paul Revere a dentist. Unusual interest has been expressed in this announcement and not a few of the auditors were inclined to remark that the statement was without foundation. As early as 1892 a lecture was given before seniors of a dental school on the subject:—"Evolution of Dental Prosthesis," in which the following occurs:—"It may not be generally known, but it is nevertheless a fact, that Paul Revere practiced prosthetic dentistry. He not only constructed artificial dentures but did considerable dental restorations of various characters. He was recognized as a practitioner of our branch of dentistry and the records will substantiate the statement that Revere was a dentist."

Later in 1902, a paper was read before the Southwestern Michigan Dental Society on the subject: "What Art has done for Dentistry," the following occurs relative to Paul Revere: "The dental profession has in the past been graced by artists who adopted dentistry as their life work, and in every instance they have reflected credit on our field of labor. The great patriot and hero, Paul Revere, an engraver by profession, devoted much time to the prosthetic division of dentistry. He constructed metal base dentures and was much interested in carving and designing artificial teeth."

In 1903 at the inauguration of Edmund J. James as president of the University of Illinois an essayist pronounced Revere a dentist.

In 1904 a lengthy article on the same subject appears in "*The*

*Plexus*," and in it also is made a definite statement that Revere was a dentist, this can be found on page 1191.

On February 22, 1909, at the exercises of the hundredth anniversary of the birth of Abraham Lincoln, given by the University of Illinois, one of the speakers responded that the topic "Dentists and Patriotism," and the address referred to Revere in this sentence: "Lincoln was familiar with our eminent and patriotic medical men, Dr. Joseph Warren and Dr. Benjamin Rush; his fundamental knowledge of American history brought him in touch with the revolutionary leaders—even Paul Revere who needs no eulogy was one of us in the capacity of a dentist." These lines can be seen on page 54, volume XV, of *The Plexus*.

The historian, Benson J. Lossing, as early as 1888, wrote: "Paul Revere was educated in his father's trade as a goldsmith and established himself in that trade; that Paul Revere practiced the art of prosthetic or operative dentistry, devoting some time to delicate mechanisms." Research into the statement of Lossing brought the thought that in all probabilities Revere like many of the carvers and artists of those colonial times, rendered dental service as a major feature of their manual or dexterous vocation. Diligent investigation brought to light the following advertisement in *The Boston Gazette* of December 26th, 1768: "Whereas, many persons are so unfortunate as to loose their foreteeth, and otherwise to their great detriment, not only in looks, but speaking in both public and private, this is to inform all that they may have them replaced with artificial ones that look as well as the natural and answer the end of speaking to all intents, by Paul Revere, goldsmith, near the head of Dr. Clark's Warf, Boston."

Revere was one of but four engravers in the colonies, and goldsmiths and silversmiths as well as locksmiths, not infrequently made mechanical dentistry their avocation, these smiths so-called, were far more capable, from the point of dexterity, than the average dentist might be willing to acknowledge; investigation along the lines will astonish all as to what these men accomplished in the way of carving and constructing gold and silver vases and table-plates; besides the locksmiths, too, was called upon to devise handsome, artistic and complicated locks for the municipal buildings and magnificent private mansions, and the carving and fashioning of artificial dentures on

gold by these supposed crude workmen will not only surprise all dentists, but astonish a large majority.

The silverware made by Paul Revere displays a knowledge of digital dexterity, such as it might with pride, belong to the most eminent in the profession of any art. Hence the thought that Revere might have been an engraver of metals,—but what might he perform in mechanical dentistry? That phase of mechanical dentistry as practiced in his day and generation was simple to one so adept with instruments intended for the artist who made many famous engravings and created many exquisite designs in book-plates and accomplished so much in the realms of art. Do not deride the products of the artists of days gone by, they left their imprint on canvas, stone and wood, and of a character meriting the admiration of all fair minded and appreciative students.

It may be interesting for those minutely concerned in the instruction of Revere in dentistry to know that he learned the dental art from Dr. John Baker, a dentist of Boston. In an advertisement of a Boston paper in 1770, Revere states: "All persons who have had false teeth fixed by John Baker, surgeon-dentist, and they have got loose (as thew will in time), may have them fastened by the above (Paul Revere), who learnt the methods of fixing teeth from Dr. John Baker." Revere was an intimate friend and business partner of Josiah Flagg, also distinguished as an early practitioner of dentistry.

Mr. George P. Tilton, who has carefully investigated this phase of Revere's life pronounces him a dentist in a new work which has just come from the press. An emphatic acknowledgment is shown in the tablet recently formed and located on the Revere home, on which the vocations of Revere, together with his accomplishments, are detailed, and fifth on that large list occurs the word "Dentist."

This careful student of American history and authority on genealogical data, published in the *Sunday Enquirer* of February 27, 1910, an illustrated article entitled "Paul Revere—The Messenger of the Revolution," and in it there appears this comment: "Revere was a jack of all trades and master of not a few. He was a surgeon, a dentist, an engraver, a goldsmith, a cartoonist, a politician, a maker of church bells, pots, kettles, cannons, spikes, nuts and bolts, a printer, a soldier and a versifier."

While on April 17th, 1910, the *Indianapolis Sunday Star* contains an illustrated page by Professor J. R. H. Moore, able historian,

and under the bold title, "From Dentistry to Bell Founding." Among other things he adds: "Let us see what he made of himself in a business way. His work as a gold and silver smith was so fine that one may well call him an artist in this field. The part he enjoyed the most was the decoration of the pieces after he had made them. In this way he worked out for himself the art of engraving on copper and made many a 'pound' engraving copper plates for pictures. His most famous plate is his picture of the Boston massacre, a reproduction of which is to be found in almost every school history, and his best known work was his artistic designing of the paper money of his time." The professor then adds a lengthy description of his artistic abilities along other lines, and concludes: "It is a far cry from dentistry to bell founding, but Revere's interest in copper working led him to chemical experiments which resulted in, starting a large plant for the casting of bells." Professor Moore might have added that it was Revere, who first in the United States, smelted copper ore and rolled it into sheets, an industry which is one of the most important in this electrical age.

The Chicago public library contains several hundred of other equally conclusive reference articles in books, journals and magazines, but space forbids their incorporation.

In the history of our country there are possibly few men who were as versatile or as universally capable, mentally or digitally, as Paul Revere, who was a most remarkable man, a genius produced at rare occasions. Dr. Benjamin Franklin, the printer, writer, designer, heraldist, historian and philosopher, is the only equal in digital and mental equations who, with Charles Wilson Peale, dentist, painter, naturalist and scientist, completes the colonial trinity of broad minded, well balanced men who were capable both mentally and manually.

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#### COMMENTS.

While there have been frequent attempts made to demonstrate that the average life of the dentist is short, the following news item will be of value since it clearly illustrates that there are some exceptions to the rule. In the life of Dr. John B. Rich, we have a most emphatic exception.

The Cincinnati Times-Star of recent date makes known these

interesting facts in the venerable dentist's career: Eighty years ago John B. Rich was the strongest man in the world. He was then nineteen years old. He died in New York City the other day, just a year short of his century, and the papers didn't even mention the fact. His name had been forgotten, although his fame did not rest alone upon the 196 pounds of sinew he owned at nineteen. It was Rich who took the first photograph of New York, and to whom Mohammed Ali Pasha of Egypt told the story of his extermination of the Mamelukes while Rich was a soldier of fortune in Egypt's service. When he died another link snapped in the chain that binds the living present to the past.

"Thank God," he said just before he died, "that I have lived to see the day when my country dares to protect her citizens. When I was a boy of twenty I had to travel under the protection of a British passport. No European feared the United States then. We seemed to fear them all, in spite of our perpetual bluster."

It was Rich who almost brought on a war between Italy and England. Walking in Naples one night, he was rudely jostled by a stranger. When he remonstrated, the stranger swore at him and struck him with a whip. Whereupon Rich made use of the old-one-two, landed on the stranger's embroidered waistcoat, and his frightened attendants spent hours in pumping air into his lungs to save his life. Rich was thrown in jail, but he got word to the captain of a British frigate stationed in the bay. That officer sent word to the Neapolitan officials that unless Rich was released in an hour, he would bombard the town.

"But he struck the duke of Padua, the brother to the king," said the city officials.

"I don't care if he took away the keys of St. Peter at the gate," said the captain. "You turn him loose."

"I was a pretty good Briton for some time after that," Rich would say.

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It is to be regretted that the profession of dentistry received the unwarranted rebuke from the managers of the theatrical companies, in the latter publicly announcing that the stage of the high class house will no longer employ actors or actresses, whose mouths display the huge gold filling or the conspicuous gold crown.

The leading teachers of both operative and prosthetic dentistry

have for many years, directed the attention of the undergraduates and the practitioners in general against undue display of gold either as fillings or artificial crowns. But some how it required the daily press and a sister profession to reprimand us for abusing good appearance by metallic substitutions, which in shade are anything but natural. If it be true art to hide art then it is permissible to crown the anterior teeth with porcelain, the nearest approach to the normal tooth shade. The aesthetically inclined dental practitioner will welcome the announcement of the theatrical managers as an emphatic and helpful criticism of the tendency in too many offices to insert the mammoth gold fillings or position the glistening auric cap. The bold stand of the directors of the drama deserves commendation, for of all unwelcome sights to the audience, is an actor, of merit, occupying the center of the stage and at every rise of the oral curtain, the lip, disclosing and exposing the brilliant precious metal crown. The act may be inspiring, the scenes in harmony with the cast, and the properties in strict keeping with the surroundings, but the exhibition of the gold crown, destroys the rhythm of the entirety and practically disengages the attention from the real mimic of men and deeds to the baser mimic of a gold tooth acting the part of the one ordained by nature.

Every dentist will observe that since the popular press has called attention to this outrage on nature, his patients have heeded the admonishment and a step to a higher plane in aesthetic dentistry has taken place. This also emphatically illustrates the value of the daily press as it relates to educating the public in any direction, and indicates how weak and ineffective are the dental journals with their meager circulation, when rated as mediums of public instruction.

Again! The auric cap and the glistening gold filling should be kept from the anterior twelve teeth. Employ them only when every other element of prosthesis seems unsatisfactory. The patients' life work or their careers should have much to do with determining the character of the substitute. And such persons as teachers, actors, lawyers, ministers and the like who are often in the public's eye, cannot afford to disregard the public pleasure nor the popular demand.

The gold filling and the gold crown have their place, hence put them where they belong.

# SPECIAL CONTRIBUTIONS.

## THE PRACTICAL TREATMENT OF EROSION.

BY LUCIEN H. ARNOLD, D. D. S.

Erosion has been more or less treated in an empirical manner with the apparent idea that the causes were similar to those causing decay and that Bactericides would stop the erosion.

The net result to date of that treatment is that some are using nitrate of silver with its unsightly discolorations, and most use nothing to arrest the erosion, but when the patient complains *too* much, the erosions are cut out and filled. (See Cut 7. Note recurrence of



erosion around porcelain inlay in the labial of the right central.)

It would seem that the treatment of erosion were one thing and the repair of damage done by erosion were quite another. This paper will deal only with the treatment, with some reference to diagnosis.

The diagnosis should not be difficult but there seems to be a hazy confounding of incipient caries (See Cut 8), when extending over broad surfaces, with erosion.



In rather few cases, comparatively, are the two conditions present on the same part of the tooth at the same time.

Broadly speaking, four features of the case will differentiate between caries and erosion, i. e., cavity outline, cavity wall shape, the surface of the floor of the cavity, and the position on the tooth.

In erosion pure and simple, we do not find the ragged, abruptly changing lines of margin that are commonly seen in caries. (See Cut 8.)



I cannot remember a case of pure erosion having jagged cavity margins. The lines of an erosion almost always curve except where the cavity is V-shaped, when at the apex, there will, of course, be an angle (see cuts 4, 5 and 6), but aside from that the lines in erosion are commonly graceful sweeps and curves and in sharp contrast to the average cavity of decay.



Then again the erosion cavity-wall differs from the caries cavity-wall in that it not often undercuts.

The cavity of erosion is almost invariably larger at the orrifice than elsewhere. My models do not show, nor do I remember, a single case showing distinct undercutting in simple erosion.

The position of the affection on the tooth will have some bearing on diagnosis, as erosion rarely begins on surfaces remote from the gums, though it may spread continuously clear out to the incisal edge on the centrals and at times clear below the gums. (See cuts 1, 2 and 3.)



The most common places of occurrence are on the gingival labial and buccal surfaces of the ten anterior teeth and somewhat more commonly in the upper than the lower jaws.



Next to the gingivo labial and gingivo buccal surfaces, the gingivo-proximal surfaces are affected. And it may occur on any tooth, including molars. (See cut 5). I have never seen the lingual surfaces of any teeth affected by erosion excepting as they were cut by

proximo-gingival cavities. Neither have I ever seen erosion on the occlusal surfaces of molars or bicuspid. The surface of the walls and floor of erosion cavities is invariably smooth, and polished often even more highly than the surface of healthy enamel. This is absolutely distinctive and may be relied on as a diagnostic symptom. There may or may not be discoloration or sensitiveness and there may be *intermittent* sensitiveness.

In the treatment of erosion the first thing to do is to get the eroded surfaces as clean as possible and this is done by the use of pumice dust and hydrogen dioxide followed by drying with warm air. Then all fats that may be, are removed with chloroform and the tooth again dried with warm air.

If these two steps have been carefully carried out the ends of the tubuli opening in the cavity will now be cleared of debris and open as far as we can get them open. The warm air should be still applied and the temperature advanced to dry the affected portion of the tooth as thoroughly as the patient feels bearable and when no more heat can be used, "formalin" is to be liberally applied to the entire surface under treatment and driven into the dried tooth as far as possible by the use of the electric cautery. This step should be repeated once or twice, as much of the "formalin" is lost through volatilization and does not enter the tooth surface. The "formalin," *i. e.*, saturate solution of para-formaldehyde in water, about 40 per cent in strength, is used as a precaution against the possibility of micro-organic life persisting in the tubuli.

Having applied the "formalin" two or three times, drying and heating the surface between each application, the tooth is heated again as much as is tolerable and a piece of "seal" is applied and well heated into the surface and when cool enough that the seal is hardened the treatment is finished.

The seal is composed of an intimate mixture of para-formaldehyde and hard parafine and its object is two-fold. First, to seal every mouth of the tubules ending in the diseased area, and second, to seal them with a powerfully antiseptic compound. Hard parafine is insoluble in the saliva and ordinary heat in the food will not soften it seriously, hence it is quite permanent as used. The surplus on the surface may be left to the action of lips and food and will soon be gone.

We have now cleaned the surface perfectly, both mechanically

and chemically, removed the moisture from the ends of the tubuli and replaced it with an insoluble antiseptic compound which is unaffected by the acids and alkalis of the mouth and by supplementing and augmenting this local treatment with thorough prophylactic treatment of the mouth and especially with massage of the membranes lying upon and adjacent to the eroded surfaces, a pretty certain prognosis of arrest of disease can be made to our patient. A cast of a case treated in 1899 is shown (see cut No. 1), and up to the present date, March 15, 1910, the case has shown no recurrence.

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### TREPHINING BANDING FOR DOWEL CROWNS.

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BY S. N. YOUNG, D. D. S., CINCINNATI, OHIO.

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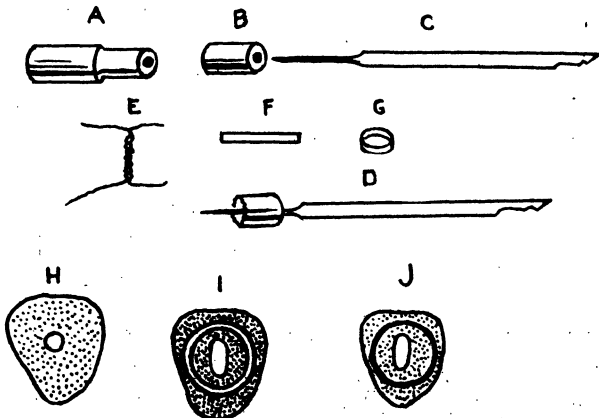
In papers and discussion upon the subjects of banded and bandless crowns, among the many advantages and disadvantages mentioned, two points always brought out most forcibly are the claims that the banded crown will prevent fracture of roots, while the bandless variety will not injure the pericemental membrane. The fact that many practitioners are using the peripheral band in connection with dowel crowns, knowing full well the many bad features of this method, is evidence that bad results are feared from the bandless crown, or that experiences of fractured roots caused by this variety of crown have been actually encountered.

One experience of handling a root severely fractured by this variety of crown is sufficient to convince an advocate that something is wanting in the method.

In the writer's experience no conditions have caused quite so much mental distress as the few cases encountered in which abutment roots have been fractured by bandless crowns. The conditions invariably occur upon roots which we are striving our very best to retain for cosmetic purposes, and no matter how intelligently these cases are handled, if the fracture is of any significance, good conditions can rarely, if ever, be restored. There is, of course, a wide variation in the conditions that may be presented in these fractures. Some may be small and insignificant, and easily repaired, possibly by merely removing the fractured particles and by proper preparation restored by casting. Others more severe may be repaired by inlaying and then banding. But in many cases the parts of the root must be

drawn together and banded, in which case subsequent trouble may not be surprising, or the still more painful method of extraction may be resorted to, and in the majority of cases of bad fracture this last procedure often proves best, (unless for personal comfort the case can be kindly referred to some unfriendly neighbor for treatment).

The trephine method of banding, which is hereby presented for what benefit it may prove to others, was adopted soon after the first "fracture" experience was encountered. The aim was to gather from the advantage column of both banded and bandless methods, points sufficient to produce a substantial crown, without involving any objectionable features of either method, and more simple of construction than the usual modified methods. The trephine band, coming within the periphery of the root at the point nearest the root canal, does not injure the pericemental membrane, and, incorporates with the post of crown tooth structure sufficient that the root can not be fractured without being literally torn to pieces. In the plate and post crown the trephine band will protect the cement around the post so that it cannot possibly be reached and dissolved by the fluids of the oval cavity. The method can be handled quickly after the art is once acquired and there is no pain whatever inflicted upon the patient, which is also an important factor. The bands can be inserted in roots of all of the ten upper anterior teeth and the lower cuspids and bicuspid, unless the roots are extremely narrow in mesio-distal diameter, and their application to the six upper anterior teeth, the teeth upon which the greatest stress falls, and which fracture most frequently is extremely simple.



(a) Model of some hard material "turned" to diameter desired, over which trephine is made and "trued" and over which bands are shaped.

(b) German silver cap 32-g. for trephine blade.

(c) Bur, with blades ground off. Inserted in G-S cap, shaped on model (a) and soldered, and blade serrated—gives.

(d) Finished trephine with guide.

(e) Wire measure for trephine blade and bands used subsequently.

(f) Clasp-metal band, same gauge as trephine blade.

(g) Band soldered and shaped over model (a) ready to cement in trephine furrow.

(h) Root reduced to gum line before enlarging canal.

(i) Trephine furrow and enlarged canal.

(j) Band cemented in root for dowel crown.

The application of the trephine method to two simple classes of crowns only, will be described; the band can, however, be applied in many other cases with advantage.

To apply the band in connection with ready-made porcelain crowns, proceed as follows:

Remove the crown of the tooth and reduce the end of root with stones slightly beneath the gum line; open root canal with small round bur to correspond with diameter of trephine guide; select from set, a trephine of gauge desired, and which will reach to point just within the circumference of root at point nearest to root canal; sink the trephine into the end of the root deep enough that the furrow will guide the blade later on; now enlarge canal and shape as desired, then with stones or facers, finish shaping surface of root to the proper point beneath the gum; replace trephine in furrow and sink it into the end of root as deep as the case requires, usually about 1mm. beneath the root surface on labial and lingual sides of medium size root with normal amount of stress. Now dry end of root and furrow, and having selected a band of clasp-metal of same gauge as blade of trephine used from supply of bands on hand, and which has been previously adjusted over the model (a) over which the trephine has been "trued" so that it will fit the trephine furrow, cover the band with quick-setting cement, press it deep into the furrow, and hold for a few moments. When the cement has hardened sufficiently, remove surplus of band with stones, when the abutment is reinforced,

ready for seating the crown. In an ordinary case, with everything required at hand, this entire operation should not occupy more than three to five minutes' time.

To apply the method in connection with plate and post crowns, prepare the root as above described, select a band of clasp-metal, place in trephine furrow and hold firmly. With a strong sharp-pointed instrument mark the band distinctly at root surface entirely around the band, remove the band and trim to this line. If the band becomes distorted in trimming readjust over model (a). Now select a piece of plate gold, 24-k or 22-k; of gauge preferred, and trim roughly to root outline and press to shape over root surface. Place the band in the proper position in this plate and solder with smallest particle of solder that will unite the band all around. Place in position on root, hold firmly, and with a foot-plugger in automatic mallet, or with hand mallet, tap the plate lightly around the circumference, marking outline of the root upon under surface of plate. Remove and trim to this outline. Perforate plate over root canal for post. Replace to position on root and force post into position, remove and solder post to plate. Replace on root and go over surface with foot-plugger to insure good adaptation to the root surface.

An artistic and substantial piece of work can be made by constructing this plate and post abutment, using S-S-W or Justi detachable post and allowing the end to project beyond plate surface so that some form of detachable porcelain crown can be adapted. The crown can be ground in quickly at the same sitting or bite and impression can be taken and the crown adapted on model subsequently.

If pure gold has been used for the plate in this latter form of crown and a little fullness has been left in trimming, it can be burnished after the crown is set, thereby protecting the cement in both crown and root.

Previous to setting the crown of plate and post variety a small hole should be made in the band at its highest point near the plate to permit excess cement to escape.

The *trephine band* eliminates the objectionable feature of the Richmond band (in pericemental irritation). Can be applied in nearly all cases where the peripheral band could be applied. Prevents fracture of roots by ready-made dowel crowns, can be applied without pain and very quickly after the art is once acquired.

## DOES MISCEGENATION CAUSE DENTAL IRREGULARITIES?

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BY S. L. SILVERMAN, D. D. S., ATLANTA, GA.

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It is here my purpose to show that odontological evidences are not the result of racial inter-marriages and in so doing confute the current belief that intercrossing of races (to the extent credited) is the etiology of dental aberrations.

Seemingly the more homogeneous the parents, the more morbid will the offspring be and this peculiarity seems to culminate in consanguinity, for as statistics show consanguinous marriages are apparently the cause of a redundancy of insanity, idiocy, albinism, etc.; albeit with a perfectly healthy stock Strahan remarks that "in-and-in breeding may be practiced with impunity, but where the stock is tainted with disease and imperfections, safety is only to be found in "crossing."\*

That hybridization does not increase the number of irregularities, I arrive at through the fact that the purest of existing species of mankind are subject to irregularities (and those of the worst kind) while on the other hand the offsprings of miscegenation do not exhibit any extraordinary percentage of malocclusion.

We have only to look at the mulatto who is the offspring of two widely different races; the Eurafrian with its brachycephalic, orthognathic, and leptorhine characteristics and the opposite characteristics of the Austafrian race, and we can readily see that their dentures are as perfect as that of any member of the Semitic or negro stocks; yet on the other hand I have seen the worst cases of impaction, the most exaggerated forms of irregularities, in the mouths of the pure negro as well as in the Jews.

Ethnology does not classify the Jews as a race and correctly so, for as is known the Chaldean group embraces the Israelites, Arameans, and Samaritans; this group represents only a small portion of the Semitic stock which in turn is just a part of the South Mediterranean branch of the Eurafrian race, but while ethnologically it is not a race the example suffices the assertion in as much as inter-marriage amongst them is exceedingly rare and they form what might be termed a pseudo-race.

Jackson asserts that "one of the most frequent causes of dental

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\*Degeneracy; Its causes, signs and results. Talbot.

irregularities is the inter-marriage of individuals of different race characteristics," Marshall also maintains that "miscegenation of nations and distinct races is often a prolific source of malformations of the jaws, and irregularities of the teeth." In one of the earlier editions of Dr. Angle's works he remarks that "the inter-marriage of different races is commonly regarded as a prolific cause of malocclusion of the teeth, especially if the parents present marked differences physically or mentally, the supposed effect being the inharmonious development of the offspring with malocclusion of the teeth—but this possibility though seemingly plausible in theory is open to serious doubts to all students who study the question carefully, as Nature's plan is to harmonize the proportions of the anatomy."

As you see Dr. Angle in the earlier edition doubts this theory and I am glad to say that in later editions he entirely excludes same from the causes of irregularities, as does Dr. Tolbot in his "Degeracy," but Guilford points out that "these conditions (dental irregularities) seem to result more frequently from the inter-marriage of races with widely different characteristics."

The promulgators of this theory seem to base their conclusions on the apparent fact that Americans are more subjected to irregularities and decay of the teeth than are their contemporaries, but here they err; and though primarily it may seem plausible, investigation proves that Europeans and Asiatics are ravaged by these ills as frequently as other civilized nations.

Why then, is it asked do Americans seem to exhibit a redundancy of dental decay and irregularities? and I answer; because here we look for them, here we have in the neighborhood of forty thousand dentists, scattered from coast to coast in towns with populations ranging from less than three hundred and up, daily performing dental operations, having ample magazine space to record existing conditions, while in other countries, I challenge you to show me a small town that has the services of a dentist, show me the country that has as many colleges that we possess, or that has made the progress and attained the success that we enjoy, especially in orthodontia.

Even now to some countries (and I speak of those that are civilized) the orthodontic appliance is a total stranger, while here in our own city a constructor of appliances and an orthodontist of repute assures me that orders for regulating appliances reach him from towns that have less than two hundred and fifty population.

Now does it not seem logically natural that where we are better facilitated, where we make inquiry and examination where shall we approach nearer the truth of existing conditions? Evidently even now, are towns in Europe which, were they in America, would have from five to ten dentists; struggling along with merely the services of the diletantish silversmith, barber, and blacksmith.

I insist that from such sources statistics on dentistry, while adduced with best intentions, are nevertheless unreliable and not fit for critical or even superficial comparison. In short, I may say that dental aberrations occur as frequently in European lands as they do in the United States, but as long as the dentists of Europe and Asia are asleep and indifferent to the science of orthodontia, so long will statistics from them be wanting in accuracy and *amount*.

That this country has outstripped the others in dental science, has solved more recondite and perplexing problems whether they be theoretical or practical, no one will dispute; why then wrangle when I say that we have also surpassed them in gathering statistics?

Reflection over this will make you doubt the validity of the incessant enunciations that "Americans suffer more from irregularities than other nations" and that "national inter-marriage is a prolific source of malocclusion."

I have observed newly arrived immigrants in college and hospital clinics and I assure you that their mouths are as a rule in a miserable state, but let us suppose that after they become Americanized and inter-marry their children are malformed; would that not be due to hereditary influence instead of racial admixture? and is it not a mistake that inter-marriages amongst them is common? Do they not form an Italian quarter, German quarter, Polish, Russian quarters, etc., in our large cities? Does not race and religious prejudice prevent such marriages to a great extent?

To return to our discussion I think that my point is clear, namely: we having more dentists, being more inquisitive as to the condition of the oral cavity, and our public being more enlightened to dentistry; we are thereby better able to record—therefore encountering more malformations, while on the other hand our European contemporaries not being so favorably situated are unable to satisfactorily report the existing conditions.

A priori reasoning does not conclude that irregularities of the

jaws and teeth should follow racial inter-marriage any more than we could expect under like environments that the fingers, toes or viscera should be morphologically deformed.

Naturalists have noticed as a result of inter-crossing whether it be in the animal or vegetable domain that the finished product **may** either be dwarfed or enlarged in structure and size; but more commonly a modification in pigmentation perceptible in the hair, feathers' eyes, leaves, flowers, etc., is the only change, but never is asymetricism the result unless it be due to atavistic reversion, yet such reversion is less common in heterogeneous marriages than it is in homogeneous.

We may infer and really see that crossing affects the stature, color of skin, transforms a brachycephaly into a mesocephaly or vice versa, but how dental irregularities should issue from miscegenation is not clear to me nor does experience teach it. It is maintained that the large teeth on one side and the small jaw on the other side of parentage results in crowding of the former; this I gladly grant, but does this import that individuals of the same race have uniform teeth and arches?

Surely you have observed offsprings whose parents on one side were macrognathic while on the other micrognathic and yet a normal occlusion existed in the child; this is not an exception, but to the contrary it is distinctly common and demonstrates that albeit the parents may differ in certain respects, the offspring's condition cannot be anticipated any more that we can predict the fusing point of an alloy by an acquaintance with the melting points of its constituents.

We may conservatively expect when hybridization is practiced that the resulting offspring may either be low or tall of stature, may be macro- or microcephalic, but at all times we must expect symmetricism, no matter how uncommonly eccentric, no matter how peculiarly grotesque, to predominate in the finished product, unless of course a deformity already existed in the parents then atavistic reversion would be the cause of such an abnormality.

As to the other adduced causes for irregularities such as mouth breathing, too long retention and too early extraction of deciduous teeth, thumb and tongue sucking, etc., they can hardly be doubted.

"Ziem\* obstructed one nasal orifice—(in an animal) as a result—there was observed a deviation of the intermaxillary bones and

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\*Jackson.

the sagittal suture—flattening of the alveolar process,” etc. Such experiments clearly prove that the baneful effects of nasal obstruction is perceptible, and its detrimental effect is direct and decidedly distinct.”

Here I would like to emphasize that probably a great percentage of odontological cases are due to the fact that we are diphyodont, and being so the eruption of the permanent set is mechanically hindered by the deciduous roots whose stubbornity to become absorbed is clearly evident and though it may be pathological, it is never the less exceedingly common and serves to deflect the emerging teeth, thereby deforming the denture. This explains why irregularities in the deciduous teeth are so rarely met with.

Another reason for crowded teeth is the shortening of the jaws in both directions as is shown by Mummery, in fact as Prof. Osburn in *Cosmos*, May, 1910, remarks “the paleolithic ancestors of modern man, according to Keane were all dolichocephalic” and as is maintained by scientists the natural tendency is a change from this to brachycephaly, especially so in civilized races. This change explains the frequency of the third molar, cuspid and lateral incisor teeth become impacted or partially so.

To recapitulate I may say that dental irregularities are not in any way produced by miscegenation, while on the other hand, the purest of races show considerable odontological evidences. What occurs to me as strange is that after consulting works by various authors on Variation, Hybridization, Heredity, Ethnology, etc., I have failed to find any allusion to dental aberrations of any other morphological deformity as resulting from miscegenation. Some would contend that investigators have neglected the dentition, but nothing is more erroneous than this, for to the contrary some naturalists have attempted to ethnographically index the races under microdonic, mesodoniconic, and megadonic heads.

In conclusion I may explain that I have had occasion to watch racial admixtures as well as the pure and found nothing to corroborate the aforementioned assertions, therefore if I am in error in my conclusions it remains for the defenders of this theory to show wherein I have erred, and albeit such important questions as the effects on fecundity and sterility from inter-crossings is to this day unsettled; our subject seems to be decided.

## KNIGHTS OF THE FORCEPS—TOO MANY.

BY B. J. CIGRAND, M.S., D.D.S.

The judgment of the world, while it may seem strange, is, nevertheless, accurate, eventually. We render judgment upon those who have passed away and there will be others who will critically review our labors and likely as drastically comment upon our shortcomings; one epoch is the jury of the preceding epoch, and one generation passes opinions regarding the merits and demerits of the generation "just gone on before." The world has often derided and ridiculed a policy or principle only later to advocate and uphold the theorem of government as one deserving of admiration. We praise enthusiastically today, and condemn tomorrow. We laud and act now, and later our words are severe enough in our condemnation. Why all this alteration? Why all this change, and why this variety of judgment? Only to adjust ourselves to the truth, and only to be in harmony with the highest principles of life and government. And what is true in civic and domestic life—with all its variety of criticism—is equally true of professional careers. We may feel that we of this day and generation, are supreme in our knowledge of the art and science of dentistry, and we may be prone to assume that the generations about to arrive will be kindly disposed to our great work. We have judged others and others will judge us. Hence, wherein will the practitioners of the days to come, find fault with our professional career? What we now call *principles* of practice, they will term *policies* of practice. The truer or correct fundamental principles of practice have not yet been evolved. Our teachers and our text-books are still at variance; there is yet too wide a gap between the leading thinkers; and far too wide a space between methods of operators. While all this diversion exists, let us be modest about preaching too positively concerning a direct method or principle of practice; let us put our foot on the soft pedal along these lines, for we are considerable remote from the goal marked "Science." We are all struggling along and here and there we are planting good seed; and here and there brushing away rubbish, but on the whole we have yet to labor ere the full light of truth shall beam upon our works. In the days to come, men of our profession will wonder at the enormous number of teeth extracted; they will still class us as "Knights of the Forceps," and with derision read from

College Catalogues "Our students require teeth. Mail all extracted teeth to the Secretary." And the boast that "Prof. Blank, during the Clinic, extracted seventeen teeth from a young lady's mouth, employing Dr. Smooth's local anaesthetic," will be most interesting reading to practitioners a hundred years hence. The era in which we live will be most severely criticized for its reckless disregard of tooth structure; its unwarranted love for capsuling with gold a slightly decayed tooth; its apparent delight in extracting teeth and roots, which were still within the province of the skilled operator to save. Our age will be recognized as one imbued with the spirit of progress though dominated by methods of annihilation and destruction. With a shudder will they read of the great number of teeth extracted in the clinics, and with lament will they realize our boldness in our contribution to edentulous mouths. Thus will they speak of the practitioners who yet live in our time. Some say: "We are saving all we feel deserves salvation." Others remark: "When a root cannot receive a Richmond crown, I extract the hopeless remnant." And still another adds: "When I cannot put a porcelain crown on the root, the forceps are my handy resort." These and similar radical statements, heard in all sections of the continent are all too severe and lend little rationalism. We must arrange to do less of this bold work and heroic dentistry, and assume a more congenial attitude towards our patron's welfare, for, after all, their comfort and their appearances are the truest test of our professional abilities. If the profession were to adopt ten commandments to insure rigid adherence to safe rules of guidance, one of these laws should be: "Thou shalt save teeth." Every attempt to restore a root, or to save a tooth, marks a step towards a higher order of professionalism. At a Michigan Dental Meeting, I read: "Conservation, preservation, restoration, these belong to modern dentistry. Extraction is Surgery: it does not belong to Dentistry." The time is not far distant when in the Legislature, laws will be enacted designating under what conditions and circumstances teeth and roots of teeth shall be extracted. (Have a laugh but that does not dispose of the situation); the people are the government, not the dentists, not the physician, not the pharmacists—no the people, just the plain, supposedly uncultured and uninformed citizens; they are the power behind the throne. Already newspapers are advocating that the dental boards should make it their business to see to it that colleges and practitioners be admonished relative to

"needless extraction of teeth." The people are gradually learning—many by sad experiences—that we as a profession are careless regarding our attempts to save teeth, and that we do not fully realize the importance of the dental organs, notwithstanding that we daily lecture and preach a jealous care for these attributes of good health. In view of the trend of the times and in accord with the idea that we all are inclined to pronounce a tooth unworthy and a root hopeless, when in truth, every element of success is still within its possession. I am anxious to once more register my protest against the practice of extraction when the art and the science of dentistry affords a method of preservation. Just because a root is broken down to a point where a circumdental band cannot be adjusted, and because a gold shell cannot be adapted about the root substance, that does not preclude the possibility of so restoring that root as to be able to carry either a Richmond or gold telescope crown. Besides such a badly decayed root can easily, yes, very easily, indeed, most easily, be restored; and upon it may be positioned an all porcelain crown, which for appearance, comfort and usefulness, could not be excelled.

Upwards of ten years ago, I advocated the Intra-dental band—primarily to make it possible to save and bring into useful service the individual root which, though badly decayed, still possessed sound tooth structure and was rigidly anchored in the jaw. The Intra-dental band system as thousands of practitioners will attest, serves its purpose splendidly since a band is registered within instead of about the tooth substance; it does not inaugurate pericemental disturbances, it does not impinge on the soft dental surrounding tissues and does not overlap the root making a harbor for foreign matter, and I assailed the band-crown unless it admitted of accurate shaping and congenial adaptation. After years of experimentation to render the badly decayed root a fair show a "brotherhood of masticators," I learned that the Intra-dental band could be dispensed with if the canal of the root was reamed to a point where sound and substantial tooth structure presented itself, and by casting a post which would accurately fit this enlarged canal—any possible superstructure, Richmond, gold shell and a variety of porcelain crowns could be adapted. After the casted post was cemented into position, you could drill a hole into and treat the metallic plug as tooth substance, anchoring a dowel crown, with or without band just as you might decide. If you hoped to set a Logan onto such a badly decayed root, say the central,

lateral, or cuspid, trim down the exposed root circumference even below the alveolar ridge. Place wax about the Logan post and insert it into the canal. Trim off the excess wax, try in again and reinsert until an accurate fit is obtained. Then remove entirely, invest, burn out the wax and cast the case. You have now obtained two pronounced advantages—first, your post perfectly fits the enlarged canal, requiring sparing amount of cement, always insuring success, and secondly, you have encased the Logan post with a rigid and enduring metal which re-enforcement adds considerable to the Logan since its pliable, bendable, yieldable and changeable material—pure platinum—has been placed within a metal possessed of the best qualities to insure permanent anchorage to the crown. In the event that the root is loose and its substance is still healthy and normal, there is no reason why it should be extracted. If that root has placed upon it an accurately fitting crown, which properly antagonizes with the other teeth, nature will splendidly restore the tooth to a rigid position, provided that its surrounding membranes and alveolar embrace has not been disturbed by gingivitis or alveolar disorders. Practitioners generally do not believe that such a root becomes solidly located, but a single trial or test will be more convincing than pages of my writing. Nature, has constructed these organs to be abusively employed—to grind, twist and turn our foods—and once this native function is denied, why nature weakens and degeneration with its quickly following disintegration sets in. But early afford antagonism, mastication and manducation to this enfeebled root and astonishing will be nature's restoration. Its power to bring back vigor, to rejuvenate and re-establish health and strength, will surprise both patient and operator.

# EUROPEAN PROGRESS.

EDITED BY THOMAS L. LARSENEUR, D. D. S.

Through a mistake in issuing the August issue, part of the article, reading "Accident of the Third Molar, Followed By Death," Page 429 was omitted. We give below the balance of the article.

—DR. T. L. LARSENEUR.

Aug. 28th.—The patient is depressed. Temperature  $38^{\circ}\text{C}$ . Pulse, strong and regular, frequency 88. The swelling is very moderate and painless. The trismus is complete and cannot be overcome. The pressure of the finger draws pus to the surface at the cervix of the second molar and under a heavy pressure, a thimble full of pus is obtained and at the same time a few drops appear in the socket of the tooth which was recently extracted.

The exploration of the pus path with a probe is impossible.

The patient is informed that it is necessary to locate the third molar, and he is dismissed till the following day with the hope that the trismus will partly disappear from the evacuation of the pus.

Aug. 29th.—Temperature,  $38^{\circ}\text{C}$ . Pulse, 90. No improvement in the swelling. Under pressure slight pain is noticed, especially at the angle of maxillary. No rubefaction, no induration, no heat. Pus is still running along the walls of the second molar. The trismus is still persistent.

Aug. 30th.—Morning: Temperature  $38\frac{1}{2}^{\circ}\text{C}$ . Pulse, normal. Extraction of the second left molar to facilitate that of the third lower left molar which was imbedded in the rami. This extraction was rather difficult and followed by a flow of a few drops of pus. The roots of the third molar are short and covered with purulent matter.

Treatment:—Frequent use of antiseptics is prescribed, such as hydrogen dioxide and laxative is to be administered the following morning. Temperature  $40^{\circ}\text{C}$ ., pulse 110, strong and full.

Aug. 31st.—Morning temperature,  $38\frac{1}{2}^{\circ}\text{C}$ . Pulse 98. The swelling and pain have much disappeared. The trismus is somewhat improved. The sockets of the extracted teeth have a very favorable appearance but the fever is still persistent in spite of all that has been done. The patient is rather depressed and drowsy.

At noon I was called to see the patient and in less than two hours, the right temporo-maxillary region was affected to such an extent that the swelling was much larger than that on the left side which was gradually disappearing. The trismus is now as bad as it ever was. The masseter and temporal muscles are spontaneously slightly painful, but slight pressure upon them causes intense and acute pain. Deglutition is painful on the right side.

Under examination of the mouth, nothing abnormal can be noticed in the region of the third lower right molar. Under further examination, it is decided to remove not only the third lower right molar but also the upper third right molar. This has been agreed to following consultation. Temperature  $40^{\circ}\frac{1}{2}\text{C.}$ , pulse 120.

Treatment:—Tonic treatment: bromohydrate of quinine; hot poultices on the cheek and temporal region in order to alleviate the pain; injection of normal salt solution to supply the deficiency of fluid which the patient cannot take. In evening, an injection of one centigram of morphine was administered.

Sept. 1st.—Morning temperature  $39^{\circ}\text{C.}$ , pulse, 100, dirotism.

The two right third molars are removed under an anaesthetic. Both teeth are deeply imbedded in the bone. In order to successfully extract them it was necessary to remove both upper and lower second molars. No trace of pus could be found in either case. The same evening, this swelling has notably disappeared and no trace of that of the left side can be seen. Pulse 108, temperature,  $40^{\circ}\text{C.}$  The patient is much depressed and delirious. Carphologia is well characterized.

Sept. 2d.—Morning temperature,  $38\frac{1}{2}^{\circ}\text{C.}$ , pulse, 100. The appearance of the patient seems to be somewhat improving. The swelling has considerably diminished. There is no pain and deglutition is performed without effort. However, the neck is covered with pustules, especially where the wet poultices have been applied. Under close examination, no other symptoms are found about the other organs.

About noon, the patient complains of a sudden and sharp pain in the epigastic region. The eyes are brighter, cheeks flushed and the respiration more rapid. Crepitant rale at the base of the right lung; nothing abnormal on the left side. Temperature  $40^{\circ}\text{C.}$ , pulse 140. All hope is lost.

Treatment:—Injections of strychnine and caffein, hypoder-

matoclysis injections of normal saline solution, dry-cupping. In the evening the pulse is 112 strong beat. The heart is watched all night.

Sept. 3d.—Morning temperature,  $39\frac{1}{2}^{\circ}\text{C.}$ , very, very weak and irregular pulse, impossible to count its beats. The whole left lung is involved. In the evening the patient dies from asphyxia.

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### CONCLUSION.

Death was caused by pneumonia causing a rapid complicated insufficiency of the heart. The epigastric pain is the symptom pointing out pneumonia.

The patient had been in ill health for sometime before he called on me on August 24th.

The fact that the removal of the second and third molars did not bring relief and formation of pustules on the neck following the extraction, pointed out general pneumonia which first developed in the teeth and ended in pneumonia.

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### THE TREATMENT OF DISCOLORED TEETH.\*

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By A. E. Gibson, D. D. S.

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*(The Commonwealth Dental Review.)*

In choosing the subject of the treatment of discolored teeth for my paper, I am dealing with a subject that seems to me, of late years, to have been rather neglected, and one that on which very little new literature has been brought forward. It is not my intention to bring anything new before you, but to give a short synopsis of the various methods that have been more or less successfully practiced for a number of years.

Possibly there are some here who have not met with any marked success in the treatment of discolored teeth, and if my humble effort will induce you to renew your acquaintance with the work, I will feel that my effort has not been in vain; and you will probably find the work not only a benefit to yourselves, but a benefit to your patients.

When undertaking the task of bleaching a tooth, never make any definite promise of success, for under those conditions a fail-

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\*Read before the Odontological Society of Queensland.

ure will generally bring disastrous results and the loss of a patient. True, bleaching is not called for today to the same extent that it was, say, ten years ago, and this improved state of affairs I attribute greatly to the advent of cocaine and its use in pulp extirpation and painless preparation of cavities. Previous to the introduction of immediate extirpation of pulp by means of cocaine, often (owing to lack of time) many doubtful pulps were capped, the teeth filled, and the patient dismissed, probably going to their homes out back of beyond, and returning a year or two hence with a badly discolored tooth. Cocain used hypodermically, or by Meyer's obtunding syringe, enables us to thoroughly prepare sensitive cavities, removing every particle of carious dentine, and thus avoiding that darkening that so often manifested itself beneath and around fillings that had been in position for a year or less.

The thorough sealing of canals has also a great beneficial effect on a devitalized tooth permanently retaining its color; for if the canal and chamber is not thoroughly filled, a certain disintegration of the organic matter contained in the tooth is bound to take place, followed by discoloration to a greater or less degree. The causes of discoloration may be placed under three headings: (1) Decomposition of the pulp; (2) drugs; (3) filling material.

The first of the above causes is the most important, and the one I propose to deal with chiefly. Discoloration from decomposition of the pulp, or staining from within, is generally from traumatic origin, and death of the pulp is brought about by sudden hyperemia, caused by a blow, biting thread, etc. The object of bleaching is to render the pigment molecules colorless or else soluble. The incipient stage of discoloration is best explained by Dr. Kirk, who says: "It is now known that the pink staining of the tooth is brought about by a rupture of the stroma of the red blood corpuscles, liberating their contained haemoglobin, which dissolves in the plasmas, forming a solution of haemoglobin, which really penetrates the dental tubuli, the lumen of which is insufficient to admit the red blood corpuscle. This pink discoloration, resulting from the infiltration of the haemoglobin solution, represents the first stage of tooth discoloration. The pink

stain readily undergoes alterations, later on assuming a brownish tint, due to the breaking down of the highly complex molecule of haemoglobin into a reduction product known as haematin."

Authorities differ as to the exact chemical change that takes place; but it is generally admitted that iron is the one important factor to be dealt with; most writers and text-books generally claim that hydrogen sulphide (one of the gases of decomposition) unites directly with the iron of haemoglobin, forming sulphide of iron, which does the staining. As iron sulphide is black, Dr. Buckley, of Chicago, questions its power of forming the various hues met with in discoloration. He claims that the reaction that takes place is as follows: Ammonia, the chief gas of decomposition, coming in contact with water contained in the canal, forms ammonium hydroxide, and this, acting on the soluble salts of iron, forms hydroxide of iron in both conditions. Ferrous hydroxide is white, but on absorbing oxygen gradually changes to ferric hydroxide, which is a reddish-brown compound. In this process there are four distinct colors—white, green, brown and black, and in the blending of those four colors we get every variety found in discolored teeth. Again, possibly having some bearing on discoloration, Dr. Kirk says: "In passing through its cycle of color changes haemoglobin undergoes several alterations in composition, during which a number of definite compounds are formed, each having marked chromogenic textures. Of these decomposition produces methaemoglobin (brownish-red), haemin (bluish-black), haematin (dark brown), and haematoidin (orange), are the most important and best known." Dr. Buckley also disputes the generally accepted idea that hydrogen sulphide acts directly on the iron. He claims that iron sulphide can only be obtained by ammonia first combining with hydrogen sulphide, forming ammonium sulphide, which in turn acts on the iron, forming sulphide of iron.

Before starting to bleach a tooth, determine the cause of discoloration and the agent most suitable to remedy it. Consider the cause from every aspect, and do not expect any great success unless you have a solid body of dentine to deal with; it is only courting disaster to attempt to work on a tooth that has little more than the enamel walls left. The bleaching process may be easily

accomplished, but the ultimate preservation of the color is a most difficult matter, even when there is a good body of dentine; permanent results can only be expected when the dentine is effectively sealed and covered. Coming now to the actual process of bleaching, I think it is universally admitted that the oxidation method is the one generally employed, and the agents in most common use are: (1) Sodium dioxide, (2) pyrozone, 25 per cent, and also the 3 per cent solution, commonly known as hydrogen dioxide; (4) hypochloride of lime. The sodium dioxide method is by most practitioners considered the best, but care must be taken that the drug is pure, otherwise the result will be anything but satisfactory. A good method of ascertaining the purity of the drug is as follows: Place about 15 grains of the sodium dioxide in a dry test-tube, and 15 to 30 drops of water, and the gas evolved will light a smouldering splinter if the drug is good. Having previously disposed of the septic conditions of the canal, isolate the tooth with the dam, and seal the apical foramen with gutta-percha, letting the filling extend up the canal for about one-third to one-half the length of the root. I might mention here that gutta-percha is the only root-canal filling that is satisfactory where bleaching is to be done. The root is now ready for the bleaching agent, which may be applied in the dry or moist state. If the moist state is chosen, the best method is to dust the sodium dioxide slowly into a small quantity of ice water until the liquid is a straw color. The liquid is then placed in the tooth, which has been previously dried, allowed to remain a short time, and then washed out with warm water, and the process repeated two or three times, which will generally be sufficient. In applying this agent, gold or platinum broaches must be used, and under no conditions iron or steel.

The dry method is to place a little powder into the cavity and apply a drop of water and wash out in a couple of minutes, and repeat as often as necessary. If the case is an obstinate one, a 2 per cent to 5 per cent solution of sulphuric acid may be applied, which will convert the oxides into sulphates, which may be readily dissolved. The fact that sodium dioxide is a saponifier aids us greatly in the following way:

Caustic soda being a by-product of the drug coming in con-

tact with the fatty by-products of decomposition in the tubuli, forms a soluble soap that may readily wash out with warm water applied with force from a syringe—hence the washing out process is itself an important factor. The sodium dioxide method removes more completely than any other tubular contents, and the result is unique from the fact that not only is the tooth restored to normal color, but to normal translucency. •

The pyrozone method is to prepare and isolate the tooth in the same way. The cavity is then dried with the hot-air syringe and a drop of pyrozone placed in the cavity and gradually evaporated with warm air, the process being repeated until the normal color is reached. In the event of an obstinate case, and the bleaching is not complete in from twenty to thirty minutes, it is advisable to seal in a small pledget of cotton-wool dipped in pyrozone, using gutta-percha to seal, and dismiss the patient for twenty-four hours, when it will be generally found that a few minutes will complete the bleaching.

The calcium hypochlorite method was the one first employed, and was first used successfully by Dr. Truman, whose method was as follows:

The tooth is to be prepared as in the previous methods, with the addition of the removal of any metallic filling. The powder is then placed in the cavity, and a 50 per cent solution of acetic acid applied to the powder to moisten it, the mass sealed with gutta-percha and the patient dismissed for twenty-four hours; the application to be repeated as often as necessary. This method is seldom used, owing to the difficulty of procuring a pure drug to work with. Bone or vulcanite instruments are to be used, and on no account steel or gold. Upon completion, the cavity must be washed out copiously with hot water, dried thoroughly, and sealed up in the usual way.

In conclusion, I will just mention a few stains that often occur, and the methods best adapted to eliminate them, though these are difficult and unsatisfactory to deal with. For a metallic stain, or a stain brought about by the application of iodine to a tooth containing a metallic filling, use the chlorine method. For an iron stain, other than that caused by pulp disintegration, use oxalic acid. This is more effective after the tooth has been treated

by the sodium dioxide method, thus forming an oxide of iron which is soluble in oxalic acid. For silver stain, first apply iodine, thus forming an iodide, which may be dissolved by the application of a saturated solution of hypochlorite of soda. Mercury stain calls for the same treatment. After the successful bleaching of a discolored tooth, the first step, and the one on which the future success of the work will depend is the thorough sealing, or else, coagulation of the discolored contents of the tubuli. This is the best accomplished by first thoroughly drying to the point of desiccation with hot-air syringe, and then painting the walls of canal and dentine with a thin coat of cavatine or other varnish, and drying with warm air, and then filling with oxychloride of zinc, or other filling, as the operator thinks best. The coagulation method is by thoroughly drying and filling canal and cavity with oxychloride of zinc, the zinc having the power, while the chemical change is taking place, of thoroughly coagulating the contents of the tubuli.

While on the subject of sealing canals, the method of using zinc oxide combined with cloves or eugenol, has a great deal to commend it, as it is well known that zinc oxide is the best agent we have for the prevention of discoloration, due probably to its hygroscopic properties, and its absorption of moisture from the tubuli—little, if any, discoloration taking place in the absence of moisture.

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#### ON THE STUDY OF COCAINE ANESTHESIA.

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By M. L. Vichot, Surgeon Dentist, *Angers*.

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(Bulletin du Syndicat des Chirurgiens Dentistes de France, Paris.  
Apr. 1910.)

Ever since cocain has been discovered and applied to therapeutics a number of researches have been made to find a substitute to this product. In spite of the discoveries of gaiacol, tropococain, eucain, orthoform, alypin, nirvanin, stovain, and recently novocain, cocain still holds first in rank.

Besides these researches which have been made, a number of experiments have been followed, to lessen the toxic action of

cocain, the result of which was to diminish its anesthetic action. The starting point of these different researches consisted in various solutions, such as aqueous solutions of cocain hydrochlorid, basic fatty solutions of cocain, oleo-naphtaline solution of Poincot, olive oil of Vigier de Loup, and the antiseptic solutions of phenol and sublimate. Generally speaking, all these solutions owed their anesthetic action to cocain itself. It is then that Schleich presented his new method of producing anesthesia, which consisted in injecting a large amount of an aqueous solution of sodium chlorid—2 per cent—containing an infinitesimal quantity of cocain hydrochlorid—weak dose, 1 centigram per 100; strong dose, 2 centigrams per 100. How could such a small quantity of cocain take effect?

The author admits that the anesthesia obtained is principally due to infiltration; i. e., by stretching out the anatomic elements, or structures. Furthermore, the result from the sodium chloride would be to prevent the pain which takes place when the injection is made and also to reinforce and increase the anesthetic action of cocain and thereby allowing a smaller dose.

This anesthetic action, due to infiltration, has been well demonstrated by Dr. Pont in his paper (*Du rôle de l'infiltration des tissus gingivaux dans l'anesthésie Dantaire—Congrès de l'A. F. A. S. Reims août, 1907*) where he brings in parallel the results obtained by an injection of one or more centimeter cubes of normal salt solution with those obtained with anesthetic solutions.

In this paper the author notices that the results obtained from the normal salt solution are identically the same as those obtained from the solution of Schleich, whereas he concludes "in his last method the anesthetic takes only a minor part and the good results which were obtained with this solution were dependent upon the infiltration."

Dr. Pont advises the diminution of the percentage of anesthetic solutions and an increase in the fluid injected.

Having experimented with the Schleich method during the past few years, the results obtained were similar to those of Dr. Pont.

The experiments below will show the value of what has been advanced above and they were made with the following solutions:

1° A 1 per cent solution of cocain hydrochlorid in distilled water.

2° A 1 per cent solution of cocain hydrochlorid with a 2 per cent solution sodium chlorid.

Injections with these two solutions were made on guinea-pigs with the following result: An injection of 1 centimeter cube of the first solution would kill the animal to which it was given, while the same animal, a few days previous would stand as high a dose as 3 centimeter cube of the second solution without any after effect from the injection.

I have injected as high as 5 centimeter cube of the second solution in a guinea-pig. Following this injection, slight trouble was noticed, but they soon disappeared. These experiments are a sufficient proof that the toxic action of cocain is diminished by the mixing of sodium chlorid to the solution, which does not lose its anesthetic power and also enables us to increase the field of operation owing to the larger amount of solution which is injected.

In fact, in my practice, I use a  $\frac{1}{2}$  per cent solution of cocain hydrochlorid with a 2 per cent solution of sodium chlorid, allowing me to perform any operation without fear of accidents.

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### BRILL'S PLASTIC PORCELAIN FILLING.

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By W. Hoffman. (*Municipal Dentist, Freiburg, I. B.*)

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(*Cottrell's Dental Chronicle*, London, March, 1910.)

My colleague Brill let me have samples of his new filling substance about a year ago, and what interested me the most was that the cement powder could be used either for ordinary filling or porcelain work; my tests were chiefly in the latter direction, though as a filling I was agreeably impressed by its rapid setting and needless of a protection after completion.

In baking the substance Brill proceeds as follows: When making a porcelain crown, a platinum cap and collar is fitted in the usual way, over which a suitable Burmeister celluloid matrix is slipped; the powder is then mixed with 2 per cent tragacanth

water to a fairly hard consistency, so that after ten minutes, about, the substance can be cut and modeled to shape. Every trace of moisture must be removed by soaking it up with blotting paper. The substance has to be pressed tight into the celluloid matrix and filled solidly with suitable instruments, after which the celluloid is to be burned away by waving it through a flame, and the final modeling to desired shape effected. It is then baked in an electric or other suitable furnace at a temperature of from 1,000 to 1,100 degrees. If a single application is not enough, the process must be repeated. The result is a magnificent tooth-crown, exceptionally hard and capable of resisting mastication.

In this way Brill has made entire bridges, as our colleagues who were at the International Congress must be aware of.

By chance I arrived at a further possibility of employing the Brill substance, and through its simplicity, and the splendid result which was attained with it, the preparation will soon be indispensable to every professional man.

In short, the substance can be worked into cement, be baked into porcelain without any alteration of shape in an electric furnace, which means that any professional man can in future without any further trouble mould his inlays and crowns in the mouth or on the model itself, and then bake them.

To explain the matter better, I will give a few examples, such as occur daily in practice.

First, the simplest case is that of a porcelain filling. After a cavity has been prepared, an impression is taken in the usual way. The gold or platinum foil is placed in the hollow and filled with the cement, which is packed into it, exactly as if a permanent cement filling were to be made. After this has stiffened, the gold leaf and filling are removed, after they have been given the proper shape and the desired contour by means of paper slips or moulding wheels. The filling with the leaf is placed in a mixture of half asbestos, half plaster, or any other bedding material, and baked in an electric furnace. Care must, however, be taken that the heat is only increased gradually, as otherwise blisters will be formed. In the same way the cooling must proceed very slowly.

As hardly any decrease ensues, the result is an exactly close-fitting porcelain inlay filling, such as can hardly be obtained by any other means or with any other material.

It is not even necessary to take the impression with leaf—which would be too much expensive—for instance, in a hospital. It is sufficient to fill the cavity, which has been previously vased-lined, with cement, and let the filling flow out somewhat over the edge of the cavity. After the hardening has taken place, the filling can be easily removed from the edge by means of an instrument. The projecting portion can then be simply cut level. This is the cheapest way in which to obtain a porcelain filling. It must be mentioned that the phosphoric acid, which is burned away during the heating, naturally takes away a portion of the coloring matter with it. Thus the dark yellow color becomes lighter, but grey shades remain almost the same. In order to select the colors it is necessary to bake oneself a small scale of colors, and by mixing colors one obtains all shades. I have never yet been in any difficulty on account of the choice of colors.

Through this method of working the possibilities of using the substance is much increased. Thus it is quite possible to perfectly replace broken-off edges and corners, and to make broken teeth whole again. To one who, as the head of a dental hospital, has it first become possible through the Brill substance to remedy all the many cases of the injuries to a tooth in a cheap and handsome way. I must not forget that in cases where the set of the teeth places the professional man in a difficulty, on account of the singular form or color of a tooth which has to be replaced, the artificial tooth can be made by the dentist himself. The easiest mode of doing this is to press the substance in use into a Stent's mould, and if pins are necessary, these can be introduced into the still sticky substance. The connection between substance and platinum becomes by this means a durable one.

In the manufacture of large crowns it is an advantage to carry out the baking process in two sections; in the first baking the consistency should only be that of a biscuit, and in the second a high degree of polish should be attained. In the beginning certainly there will be some difficulties, but these will soon disappear after some experience of the material has been gained.

# JOURNALISTIC GEMS.

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## PREVENTION IN DENTAL AND FACIAL DEFORMITIES.

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BY DR. B. FRANK GRAY.

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At the present time the old maxim, "An ounce of prevention is worth a pound of cure," has a greater significance to the practitioners of dentistry and medicine than ever before. Prophylaxis, or prevention, if you please, is being more generally studied and practiced today than at any other period in the history of our profession, and I am sure the same is true of the medical profession.

In dentistry some of our most able men have established practices wherein prophylaxis alone claims their attention, and the teaching that dental caries, pyorrhea alveolaris and malocclusion, are the result of neglect, and are wholly preventable, is not an exaggerated view in any sense. So that while the dentist is thus grasping the broader meaning of his work for humanity, and is striving to secure for his patient freedom from dental and oral ills, the physician is more and more directing his attention to the teaching of hygiene and, in some instances, to the psychic and spiritual forces of man, to the end of preventing and curing disease.

Prevention in orthodontia has not been so fully accepted by the dental profession as is desired by those men who give all their time and study to this work. Many capable and well-meaning dentists have the belief that malocclusion of the teeth may be treated to better advantage after the completion of the permanent dentition (say at thirteen to fifteen years of age) than at any earlier period.

It is with no feeling of antagonism, purely as such, that I shall attempt to show the folly of this view. I am assuming that my dental friends, like myself, wish to know the truth, and are willing to change their minds upon any matter of importance, providing they may be brought to see wherein they are wrong.

*Nature intends that every child shall have an uninterrupted development!* This is quite as true in its application to the dental arches and the alveolar process as it is in any other part of the body. A commencing malocclusion is comparatively easy of correc-

tion. I recently observed a case, at six years of age, wherein the inferior first permanent molar was assuming a position quite distal in its relation to the corresponding tooth of the upper arch. With those very important teeth mal-related in such a way, nothing but an established malocclusion, which would affect all of the remaining teeth, could be expected. The variation from the normal in this instance may not be so marked in the case of the deciduous teeth, but the malposition of the permanent molars is the foundation on which will rest the various serious irregularities of the succeeding permanent teeth.

Until quite recent years the general impression has prevailed that the deciduous teeth themselves were seldom, if indeed ever, in malocclusion. The truth is, however, that case after case is being noted to disprove that idea. I especially recall a child of three years, which came under my observation a couple of years ago. The little fellow was a typical mouth-breather, and the superior dental arch had assumed the pronounced V-shaped appearance associated with that type of case. The indications for treatment were already fully present, and it is certainly advisable to correct such a case at the earliest possible age. If the child is amenable to treatment under six years of age, treat him, by all means. By enlarging the arches and destroying their normal shape, you are making a clear road for normal permanent dentition. At the same time, in such an instance as just cited, you are making possible the proper development of the nose and accessory cavities. Remember, too, the real cause of persistent mouth-breathing (after the removal of adenoids, etc.) may be the maloccluded teeth. If teeth interfere with a normal closure of the lips, mouth-breathing is inevitable.

Not a few of the serious cases that come under the observation of the specialist owe their origin to the premature loss of deciduous teeth. I believe almost all dentists now recognize the necessity of preserving these teeth to the full normal period. The claims of orthodontia are not alone to be considered in this connection, as the hygiene of the mouth demands that so long as these teeth are present they shall be kept free from caries; that they shall, at least, be kept filled. If caries exist at the age of nine years, and the affected tooth be a first deciduous molar the usefulness of which is to end at the age of ten, *fill the tooth all the same!* You are thus serving

your patient's best interests, and therefore your own advantage is being looked to.

Now the great difficulty about treating cases after the permanent dentition is completed, is this: Granting the malocclusion had its commencement at eight years of age, the patient is placed at the disadvantage of having lost from five to seven years of development of the dental arches and alveolar process, with the osseous structures closely related thereto. It is true enough that some splendid results are accomplished when the treatment is deferred, but it is seriously questioned if such a harmonious development of the face may be expected as would be the case if an earlier correction had been made. That the work is considerably harder of accomplishment at the later age is quite true. Again, a given case might have been treated at a comparatively small expense in its incipency, or even in its earlier stages, but the added years of delay have so added to the requirements of treatment that the fee must be materially increased as well. This is a matter upon which the best orthodontists of the country feel very strongly. I recall the words of Doctor W. J. Brady: "When anyone advises to wait until all the permanent teeth are in, he should truthfully add: 'And the case has got as bad as it can get and becomes as difficult to treat as possible.' The addition of this latter phrase rather puts a new meaning to the first section, yet this is exactly what this time-honored advice means. \* \* \* The present day treatment consists of helping the patient grow right rather than trying to make him over after he has gone wrong."

Some of the arguments for deferring treatment of malocclusion until the age of thirteen to fifteen years, are as follows:

1. Possibly the irregularity may disappear in the course of development.

2. Granting the case may be treated at the age of seven, further malocclusion may develop before completion of the permanent dentition.

3. The co-operation of the patient might be more readily secured at fifteen than at seven years of age.

In the first instance cited, careful observation will show conclusively that the great majority of cases, left to themselves, grow progressively worse rather than better. Competent judgment is to be exercised in the matter of indications for treatment in this, as

in other departments of the profession. It is submitted that the general practitioner of dentistry who is conscientious will allow that the specialist also possesses that virtue. Reckoning from such a standpoint, he will fully respect the opinion of the orthodontist, who after special training and much study and experience, may hold ideas at variance with his own. It is safe to say that for the one case which "corrects itself," ten go from their incipency into an established condition of malocclusion. Reference is not had to the minute deviations from the normal which appear as the teeth are being erupted. The thoughtful man will make the proper distinction.

As to the second objection to early treatment cited. Speaking from principle, is it not quite as reasonable for the physician to refuse to render aid to the sick child, or the dentist to decline to care for his carious tooth, as to discourage the early treatment of malocclusion? Even though the physician cure the child, may he not again be ill? The decayed tooth may be cared for, but may not other teeth shortly become carious? If the comparison be regarded as an odious one, it may, in any event, have the effect to stimulate thought. It is well to remember that the normal arrangement of the teeth, which may be present in the arches at a given time, whether at the age of six years or ten, is the best possible guarantee of the continued harmonious development of that child's jaws and adjacent bones as well as of the face.

And again, as to the third objection. Is it true that a child is more tractable to treatment at fifteen than at seven to ten years of age? This belief is commonly held by many dentists. My own experience in dealing with children is quite contrary to this opinion. These young patients repose the fullest degree of confidence in the operator, providing he can understand and care for the child nature. From the standpoint of energy expended, I would rather treat two cases at eight than one at fifteen years of age, granting the same degree of malocclusion exists in either case.

It is hoped the family dentist, than whom no other is likely to have a more favorable opportunity, may exert his influence in behalf of the normal development of the dental arches. In so doing he will render a service to the child that is very far-reaching. This must be appreciated when an understanding is had of the very important relation the normal development of this part of the body

bears to the healthy growth of subjacent structures, which are so largely concerned in certain vital functions. The nose, which is its accessory sinuses, is remembered in this connection.

It is believed that a reasonably thorough study of this whole subject will convince any dentist in which direction the path of wisdom lies.—*The Pacific Dental Gazette.*

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### WATCH YOURSELF GO BY.

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Just stand aside and watch yourself go by;  
Think of yourself as "he," instead of "I."  
Note, closely as in other men you note,  
The bag-kneed trousers and the seedy coat.  
Pick flaws; find fault; forget the man is you,  
And strive to make your estimate ring true.  
Confront yourself and look you in the eye;  
Just stand aside and watch yourself go by.

Interpret all your motives just as though  
You looked on one whose aims you did not know.  
Let undisguised contempt surge through you when  
You see you shirk, O commonest of men!  
Despise your cowardice; condemn whate'er  
You note of falseness in you anywhere.  
Defend not one defect that shames your eye,  
Just stand aside and watch yourself go by.

And then, with eyes unveiled to what you loathe—  
To sins that with sweet charity you'd clothe—  
Back to your self-walled tenement you'll go  
With tolerance for all who dwell below.  
The faults of others then will dwarf and shrink,  
Love's chain grow stronger by one mighty link—  
When you, with "he," as substitute for "I,"  
Have stood aside and watched yourself go by.

S. W. GILLIAM, in *Success Magazine*.

# PRACTICAL SUGGESTIONS.

## TO ETCH THE SURFACE OF A GOLD INLAY.

When the inlay is ready to set, coat the surface you want cement to adhere to with mercury, spreading the mercury around with the aid of a pellet of moist cotton and a pair of pliers. Then hold over an alcohol flame and slowly drive off the mercury, leaving a rough crystalline surface, to which cement will adhere.—C. J. HADLEY, *Dental Review*.

## TO OBTAIN CLEAN RESULTS IN CASTING INLAYS AND BRIDGES.

This depends not only on a well finished wax model, the surface of which has been smoothed over with vaseline, and this in turn removed by means of alcohol, but also on the manner in which the same has been invested and heated. I have obtained my best results by first painting the wax model, after mounting it on the spruce wire, with soapy water, just prior to investing, and then applying the investment material over this with a camel's hair brush. The soapy water causes the investment to flow evenly over, and adhere to the wax model. The investment should be thoroughly mixed for a few minutes to a creamy consistency, and then by rolling the mixing bowl slowly round on its side all air bubbles are excluded. In heating, do not bring the ring in direct contact with the flame.

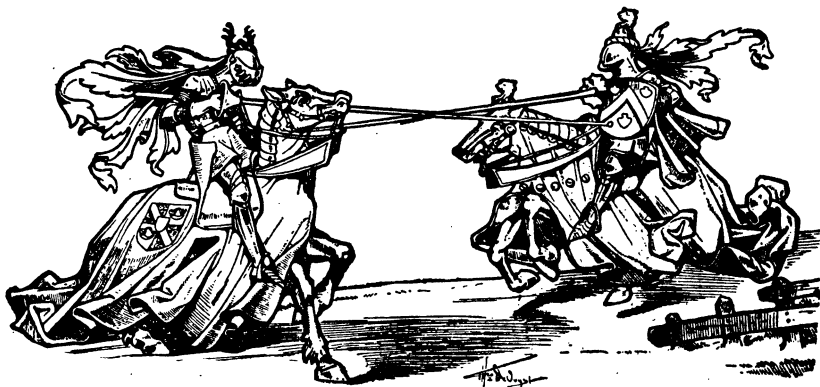
## TO AVOID IRRITATION OF CEMENT WHEN SETTING CROWNS.

Very often the mounting of crowns or bridges with cement causes considerable pain, and this can be avoided to a considerable extent by coating the outside of the bands at the gingival portion with vaseline. This allows the cement to slip away from the gum margin, thus avoiding its irritating effect.—R. E. MAC BOYLE, Chicago.

## A WAY TO HAVE CASTINGS COME OUT CLEAN.

It is a fact that inlays after casting oftentimes have what is called a silicate coating, and it has occurred to me, possibly that was the result of the smearing of saliva on the wax form. For some time I have been washing all these wax forms in water, then in alcohol, and have not yet one case of such coating to report.—E. R. CARPENTER, *Journal Dental Science*.

# PROFESSIONAL ARENA.



[In the space devoted to this department many of the so-called solved problems are to be opened for re-examination. Besides such other topics as are of greatest importance will be brought to the attention of the readers, and ablest talent will be engaged to discuss interesting dental themes. The subject under consideration for the present is: "Should the dentist charge by the time or service rendered?" We invite you to send in a short discussion on this problem. This is a topic in which all are concerned, and your opinion and experience is sought, as good will come from these comparative deductions.—EDITOR.]

## SHOULD THE DENTIST CHARGE BY TIME OR SERVICE RENDERED.

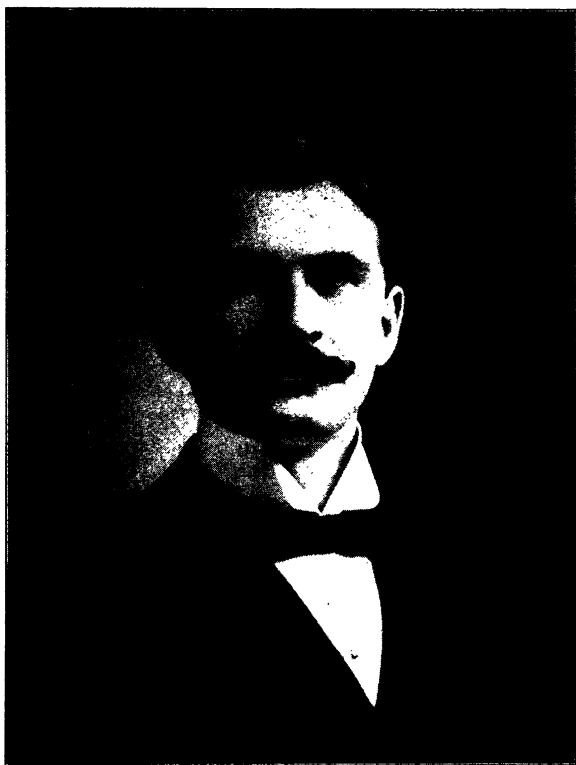
In regard to the question, "Should the dentist charge by time or service rendered," would say that in my opinion the correct method is to charge according to the time taken for an operation. But the patient should not be called on to pay for time used because of lack of office equipment, lack of experience or skill of the operator or lack of management of any kind. Nor should the patient ever be called upon to pay for time used by the dentist for other than the services for which the patient consulted him for and actually employed by the dentist in performing the operation. In addition the patient should not be charged "by the hour" for wasted time.

Yours very truly,

Bridgeport, Connecticut. CLARENCE EDGAR CAULKINS, M. D. S.

# WHO'S WHO AND WHY.

[Under this title the journal will devote some space to acquainting its readers with the presidents of state dental, and important local societies; and treat of such other distinguished dental practitioners as the personal news items merit. By this means the readers are brought into a closer relationship with the leading spirits of their profession, and a better understanding can grow out of such an acquaintance.—EDITOR.]



GEORGE WALTER DITTMAR, D. D. S.

George Walter Dittmar, who is Superintendent of the Infirmary and Associate Professor of Operative dentistry in the College of Dentistry of University of Illinois, was born April 1, 1872, on a farm in Derinda, Illinois. He obtained his early education at a little country school house which, after the age of ten he attended but a few months each winter. At nineteen, on account of poor health, he went to southern California, a year later to San Francisco, and then to

Philomath, Oregon, where he took a course in preparatory work, in the Philomath college. He then turned his attention to teaching school. In 1893 he returned to his native county, and resumed his vocation until fall '95, when he entered the Northwestern University Dental School. In the spring of '98 he graduated with honors, beginning the practice of his profession at Apple River, Illinois. Dr. Dittmar is an active member in the Chicago Odontographic and the Illinois State Dental Society. In the spring of 1900 the Chicago Dental Society elected him a delegate to the International Dental Congress at Paris. He traveled throughout France, Belgium, Germany, Holland and England enjoying to his full capacity the interesting benefits of a trip abroad. He has been a delegate to various dental gatherings, and has taken an active part in advancing his profession to higher standards. As the chairman of the executive committee of the Illinois State Dental Society, he has certainly made a commendable record.

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#### DR. T. W. BROPHY.

A new work on Oral Surgery is soon to appear. It is the product of the busy career of Dr. T. W. Brophy, dean of the Chicago College of Dental Surgery.

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#### HORACE FLETCHER COMING.

Dr. C. E. Bentley, chairman of the program committee of the Chicago Odontographic Society announces that in the near future the society will have the honor and pleasure of hearing the famous Mr. Fletcher, who has done so much to awaken a proper appreciation of the use of the dental organs.

# ANNOUNCEMENTS.

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## AMERICAN MILLER MEMORIAL — HONOR TO WHOM HONOR IS DUE.

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All dentists at home and abroad are debtors to the late W. D. Miller, whose scientific mind, untiring energy and pride in American citizenship has been one of the potent factors in placing this country at the head of the profession.

Let the old adage, "A prophet is not without honor save in his own country," be the exception in this instance and every loyal American be represented in a lasting memorial to his useful life.

The proposed bronze will be erected in the capital city of his native state, that he may share the well-merited distinction of being one of our greatest men.

The invitation to contribute is extended individually and collectively through the societies of the country, and your support, both moral and financial, is urgently solicited.

In order that the work may be quickly and efficiently accomplished, contributions may be sent direct to the treasurer of the American Miller Memorial Fund, Weston A. Price, 10406 Euclid Ave., Cleveland, Ohio.

Executive Committee—Edward C. Mills, Columbus, Ohio; J. R. Callahan, Cincinnati, Ohio; S. D. Ruggles, Portsmouth, Ohio.

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## NEW YORK ALUMNI ASSOCIATION, XI PSI PHI FRATERNITY.

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The annual fall meeting and election of officers of the New York Alumni Association, Xi Psi Phi Fraternity, will be held at Healy's, Columbus avenue and Sixty-sixth street, New York City, at 8 p. m., Wednesday, October 12th, 1910. Every Xi Psi Phi Alumnus residing in or about New York City is urged and expected to be present.

# EVERYBODY'S CORNER.

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**Dentist Drops Dead.**—Dr. Walter Row, a practicing dentist at Connersville, Indiana, was found dead July 30th in the shallow water of White Water river near Connersville. Death was due to a sunstroke. Dr. Row was thirty years old and is survived by a widow.

**Dentist Slain.**—Dr. William F. Michaelis, a well known dentist in Englewood, Chicago, Ill., was shot down by a man August 5th and died while trying to breathe the name of his slayer. Dr. Michaelis was married and was the father of three children, the oldest thirteen years. He had practiced dentistry in Englewood for twenty years.

**Aviator Hurt, Rejoices.**—Dr. Henry W. Walden, a practicing dentist in New York, N. Y., suffered a broken collarbone August 3d when his tiny monoplane turned turtle on him in the aviation field. After being dragged from beneath the wreckage he gazed at the craft and remarked, "Why, it isn't smashed much, I'll be flying it again in a few days."

**Coughs Up Tooth.**—Treated by physicians for a year without success, John Sullivan, twenty-five years old, residing in Putnamville, Mass., coughed up a tooth that had lain in his lungs for thirteen months.

**Fire Destroyed Dental Office.**—A fire said to have been caused by defective or crossed electric wirings damaged the dental office of Dr. C. E. Waller, Fort Worth, Texas, August 4th, to the extent of several hundred dollars.

**Dentist Poisoned.**—Dr. Charles Beerend, a practicing dentist in Milwaukee, Wis., was confined to his home for several days as a result of eating poisonous mushrooms.

**Dies in Dentist's Chair.**—Mrs. Marjorie Moore, who lived several miles out from Osborne, Kansas, came to that town to have some teeth extracted. An experienced physician administered chloroform from the effects of which she did not revive. Several physicians were called in consultation but without avail.

**Dentist Found Dead in Bed.**—Dr. Elbert T. Davis, a well known dentist in Bridgeton, New Jersey, was found dead in bed by his wife, August 12th. The doctor was fifty-four years of age and is survived by a widow and two children.

**Breaks-Mineah.**—Dr. E. E. Breaks, a practicing dentist in La Salle, Illinois, was married August 15th to Miss Vera L. Mineah, at the home of the bride's parents in Marshalltown. After a trip on the lakes the couple will reside in La Salle.

**Dentist Missing.**—Dr. O. W. Barton, a dentist of Greensboro, has mysteriously disappeared. Nothing has been heard of him for more than three weeks.

## IN MEMORIAM.

**Dr. James H. Bean**, a well known dentist in Youngstown, Ohio, died Sunday, August 18th. The doctor was forty-one years old, and is survived by a wife and three children

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**Dr. Jean Whinnery**, a dental surgeon in the United States army in Zamboanga, P. I., died July 9th.

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**Dr. George F. Grant**, a prominent dentist in Boston, Mass., died Sunday, August 18th, at his summer home in Chester, N. H., at the age of 66 years. Dr. Grant was for many years a professor in the Harvard Dental School, and an authority on mechanical dentistry. He was one of the founders and one time president of the Harvard Odontological Society and also a member of the American Academy of Dental Science.

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**Dr. John B. Rich**, one of the oldest dentists in New York, died August 9th. For many years he was known as the strongest man in the world. He founded the organization from which grew the American Dental Association. He is survived by one son.

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1. The first part of the document is a list of the names of the persons who were present at the meeting.

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